DOCUMENT RESUME

ED 215 141 CE 031 870

AUTHOR Veres, Helen C.; Carmichael, Mary Margaret
TITLE Changing Adolescents' Attitudes Toward Nontraditional Career Choices: An Intervention Process.
PUB DATE 82
NOTE 15p.; Paper presented at the Annual Meeting of the American Educational Research Association (New York, NY, March 23, 1982).

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Affirmative Action; *Attitude Change; Career Choice; *Change Strategies; Decision Making; Females; Grade 8; Grade 10; Information Dissemination; Intervention; Learning Activities; Males; *Nontraditional Occupations; Occupational Information; Program Effectiveness; Secondary Education; Sex Fairness; *Sex Stereotypes; *Student Attitudes; Vocational Education

ABSTRACT

An intervention project was conducted to determine if affirmative action strategies had an effect on promoting nontraditional program and course selection among 460 eighth and tenth grade students from urban, suburban, and rural communities in New York. The groups, about half male and half female, were divided into a control group and an experimental group. Both groups took pre- and posttests to determine their attitudes toward careers, specifically toward occupations non-traditional for their sex. Classroom activities, such as the viewing of filmstrips, class discussions, and student-parent discussions about sex-stereotyped attitudes were conducted with the experimental group. The results of the study, as measured by the posttest, provide evidence that classroom activities which provide students with information about career decision-making and nontraditional career choices and the chance to discuss the choice process can affect student's attitudes in a more positive direction towards nontraditional careers. In particular, the activities and discussions conducted with the experimental group had the greatest impact upon the male students. These students showed significant changes in their opinions that occupations are appropriate for both sexes. Female students also showed positive change in their attitudes, although their attitudes were less stereotypic at the beginning. Even the control group experienced some positive changes as a result of thinking about occupations in completing the pre- and posttests. Classroom activities, as well as involvement of parents, were recommended to change sex-stereotyped attitudes toward nontraditional occupations; these activities were shown to have merit even when carried out for only a short time. (KC)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED215141

CHANGING ADOLESCENTS' ATTITUDES TOWARD NONTRADITIONAL CAREER CHOICES: AN INTERVENTION PROCESS

Helen C. Veres
Broome Community College

Mary Margaret Carmichael
Cornell University

Paper presented at the Annual Meeting of the
American Educational Research Association
March 23, 1982
New York, New York

ED 218170

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

This document has been reproduced as received from the person or organization originating it.

Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Helen C. Veres

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

CHANGING ADOLESCENTS' ATTITUDES TOWARD NONTRADITIONAL CAREER CHOICES: AN INTERVENTION PROCESS

The process of choosing a career begins early. Even pre-school children have acquired some information and formed opinions about occupational roles (Looft, 1971). Other studies (Rosen & Aneshensel, 1978; Kirchner & Vondracek, 1973; Hollender, 1971) consistently show that boys and girls view occupations in a sex-stereotyped fashion, considering some occupations as appropriate for men, others for women. By the time boys and girls reach adolescence, they are likely to limit their own career choices according to what they think is appropriate or attainable for males and females in our society. The effect of such sterectypes on occupational choice is that individual interests and abilities often take a subordinate role in the selection of a career. Young women may avoid careers in math and science; young men may steer away from careers involving artistic or nurturant interests.

These influences can be observed at work in the career and program choices of vocational education students. In New York State, enrollment totals for secondary-level occupational education programs for 1980 - 1981 show that efforts to reduce sex-stereotyping in programs are producing increases in non-traditional enrollments. However, females are still disproportionately represented in programs such as health (87% female), occupational home economics (77% female) and office and business (72% female). Males compose the majority in technical programs, trade and industry and agriculture (all 75% male). To assist educational institutions in implementing programs to reduce occupational sex-stereotyping, the authors participated in a research team which examined some of the factors which are influential in students' career and program decisions (Ott et al., 1980). The study focused on identifying the influence that parents, peers and school personnel have on students' attitudes toward selecting and enrolling in particular occupational education programs.

The findings from this study suggest that parents, same sex peers, opposite sex peers and school personnel, in order of importance, rank as effective sources of influence on students' occupational decisions. Other

studies (Greene, Beyard-Tyler & Sullivan, 1981; Venter, 1980) indicate that curricula and activities which provide non-stereotyped career information and alternatives in occupational choice can be effective in increasing options for young persons. This evidence forms the basis for the present study - an intervention into the social dynamics of the school, peer groups and home. This intervention focuses on affirmative action to promote program and course selection on the basis of students' specific talents and interests.

Procedures

A quasi-experimental design was selected as the best method for determining whether activities conducted with students and their parents were effective in promoting less stereotypic attitudes towards students' career and program choices. The pre-and post-test design required the selection of comparison groups of students, one group participating in the activities; the other group receiving no special treatment. In addition, to facilitate the generalizability of the study's results, students from urban, suburban and rural communities were to be included.

Three regions of New York State were randomly selected from among the thirteen occupational education planning regions. Within these three regions, school districts were randomly chosen from among districts which included urban, suburban and rural areas. Four of the schools in these districts were designated as experimental schools; four schools as control schools. Administrators in these districts were contacted and their cooperation sought in permitting a sample of eighth and tenth grade students to participate in the study. Eight schools in five districts, six with eighth grade classes and four with tenth grade classes, agreed to participate (Table 1).

This process resulted in a total of 460 students who participated in both pre-and post-tests. This total was composed of 231 students from eighth grade classes and 229 from tenth grade classes; 237 males and 218 females. Since in seven of the eight schools students who missed the post-test were apparently

absent for a variety of reasons, any absence was assumed to be on a random basis. However, an exception was the school in which eighth grade students were not able to participate in the post-test because of a school time problem. Therefore, the composition of the sample of students who completed both instruments includes fewer eighth graders than the number in the first administration.

Table 1

Sample of Eighth and Tenth Grade Students by School

	Grade 8		Grade 10	
School	Survey 1	Survey 2	Survey 1	Survey 2
Control				
School 1	57	0	54	53
School 2	48	47		
School 3			70	66
School 4	47	47		
Total	152	94	124	119
Experimental				
School 5	53	53	48	42
School 6	58	48		
School 7	44	38		
School 8			73	66
Total	155	139	121	108
TOTAL EXPERIMENTAL AND CONTROL	307	233	245	227

Design of Classroom Activities

A major goal of this research study was to develop a program of classroom activities which can be used with students in eighth and tenth grade classes to promote less stereotypic attitudes toward occupational choice. As a first step in developing a program for use in the classroom and to eliminate duplication of effort, materials developed by other researchers were examined. Both print and audio-visual materials were reviewed for their

appropriateness in presenting information to students about non-stereotypic occupational choice.

After reviewing materials, two short filmstrips were selected for inclusion in the classroom activities. These filmstrips contained interviews taped with men and women of different races employed in occupations non-traditional for their sex. The occupations include a male nurse, a female reporter, a male student in early childhood education, a female carpenter and a male kindergarten teacher. The individuals talk about the reasons they chose their occupations, what they do in their jobs and their feelings about occupational stereotyping. Information and facts about how gender influences occupational choice are also discussed.

Other classroom activities were included based on evidence from the research literature. Students and their parents were provided with information about career options and employment data, especially with regard to non-traditional careers. Classroom discussions among the students were held to promote interaction among peers on topics related to career decision-making and the selection of non-traditional careers.

Another activity required students to discuss with their parent(s) many of the issues inherent in career decision-making. In the previous study (Ott et al., 1980), parents expressed strongly sex-stereotyped attitudes towards non-traditional educational programs and career choices. Since sons and daughters saw their parents as important influences in their choice of career, the involvement of parents in the decision process was a critical element in the design of the experimental activities. Parent responses to interview questions and student survey responses formed additional subject matter for classroom discussions.

A pre- and post-test instrument was also developed and field-tested to determine background characteristics of the students, their educational and career plans and their perceptions of occupational stereotyping. The resulting

instrument was administered to all students who participated in the study. In the schools in the experimental group, students completed the instrument before any of the classroom activities took place. In control group schools, students completed the instrument during regular class time. The administration time averaged 15 to 20 minutes.

Findings

An important objective in this study is to determine change in students' attitudes towards careers and specifically toward occupations non-traditional for their sex. To accomplish this, responses of students in experimental and control groups were analyzed using a series of t-tests. There were four basic comparisons:

1. Comparison of responses on the pre-test to determine significant differences between experimental and control groups before the study (Group Comparison).
2. Comparison of responses on the post-test to determine differences between the experimental and control groups four to six weeks after the classroom activities were completed (Group Comparison).
3. Comparison of responses of students in the experimental group on the pre- and post-test (Paired Samples).
4. Comparison of responses of students in the control group on the pre-and post-test (Paired Samples).

Career Choice. Both the pre-and post-test instruments included several questions concerning the extent to which the student had made a career or occupational choice, whether the student had sufficient information about programs to prepare for a future career, and whether the student had thought seriously about entering an occupation that is not traditional for his or her sex. On the pre-test, a comparison of the responses of male and female students showed no significant difference between the sexes in the extent to which the student had made a career choice. However, females in the experimental group showed significant change from the first to the second survey in becoming more likely to have made a choice. Neither males nor females in

the control group changed. Although males and females at this age level are similar in the extent to which they have made a tentative career choice, it appears that the experiences of the experimental group may be related to females becoming more likely to cite an occupational choice.

Although males were more likely to have information about programs to prepare for a career (t-test significant at the .05 level) at the time of the pre-test, there was no significant difference between the sexes in information about programs on the post-test. No significant differences were obtained between males in the experimental and control groups on either the first or the second survey, and neither group showed a change over time in the amount of information. Females in the control group were more likely to say they had sufficient information at the time of the pre-test, but there was no difference at the post-test and no change between tests among either group. Since the experiences in the experimental group did not include specific information on programs available, it is to be expected that there would be no difference between experimental and control students attributable to the study.

Central to the study, however, was to have students receive occupational information and to participate in discussions of non-traditional careers. Since the pre-test showed that females were more likely than males to have thought seriously about entering an occupation non-traditional for their sex, separate analyses were performed for males and females. When students in the experimental and control groups were compared, the greatest change occurred for males in the experimental group. These students showed a significant increase (t-test significant at the .01 level) in their consideration of a non-traditional occupation. No change was noted in the attitudes of males in the control group. Although on the pre-test there were no significant differences between groups on this variable, by the post-test, males in the experimental group were significantly more likely to have considered a non-traditional occupation. Among the experimental group, 13.6 percent of the males had considered such a choice at the time of the pre-test. This total almost doubled, increasing to 24.6 percent by the post-test. In contrast,

12.6 percent of the males in the control group had initially considered a non-traditional occupation compared to 11.7 percent on the post-test.

On the pre-test many more females than males had seriously thought about entering a non-traditional occupation (62.0% of females in the control group and 60.6% of females in the experimental group). Neither group of young women changed significantly and there were no differences between the two groups on the post-test. Although it is possible that the activities in this study influenced males to consider a non-traditional career, there appears to be no influence on consideration of a non-traditional career by females. A possible explanation is that at these eighth and tenth grade levels approximately three-fifths of the female students have already considered a non-traditional career. Consequently, the females in the study were already well-informed about possible non-traditional careers and had less room for improvement in the numbers of young women who might give this type of serious consideration. However, these grade levels appear to be an opportune time for providing males with opportunities to consider a wider range of career opportunities.

Attitudes Toward Occupations. On both the pre- and post-test, students were presented with a list of 30 occupations and asked whether they thought each occupation should be held by only males, only females or both males and females. At the time of the pre-test, females were significantly more likely than males to say that an occupation should be held by both sexes on 19 of the 30 occupations listed (t-test). Therefore, initially, females had a less stereotypic outlook on careers than did males. Separate analyses for males and females in the experimental and control groups showed that females in both groups were similar to each other in almost all instances on both pre- and post-tests. On the pre-test there was a significant difference between groups on only one of the thirty occupations, and on the post-test on only two of the thirty occupations (Table 2). In each comparison, the control group was more likely to say that an occupation should be held by both males and females.

In the experimental group, females changed significantly over time towards less stereotypic attitudes on six of the thirty occupations. In the

Table 2

Students' Perception That Occupations Should Be Held by Both Males and Females: Comparison of Change in Students' Responses Between First and Second Surveys for Experimental and Control Groups

Occupation	Time of Survey	Comparison of Mean Values on First and Second Surveys: Experimental Group-Means Males (N = 133)	Experimental Group-Means Females (N = 110)	Control Group-Means Males (N = 104)	Control Group-Means Females (N = 108)
Guidance Counselor	1st	1.94	1.96	1.98	1.98
	2nd	1.94	1.98	1.97	1.99
Store Salesclerk	1st	1.95	1.98	1.96	1.95
	2nd	1.86**	1.94	1.94	1.95
Real Estate Agent	1st	1.91	1.93	1.95	1.96
	2nd	1.93	1.93	1.95	1.93
Computer Programmer	1st	1.90	1.93	1.94	1.95
	2nd	1.88	1.95	1.95	1.99
Data Processor	1st	1.90	1.93	1.94	1.92
	2nd	1.88	1.97	1.88	1.94
Restaurant Manager	1st	1.84	1.94	1.79	1.96
	2nd	1.84	1.93	1.87	1.94
Elementary School Teacher	1st	1.82	1.87	1.85	1.90
	2nd	1.78	1.86	1.83	1.88
Veterinarian	1st	1.84	1.84	1.88	1.88
	2nd	1.87	1.83	1.86	1.91
Food Service Worker	1st	1.75	1.90	1.83	1.92
	2nd	1.82	1.93	1.76	1.94
Police Officer	1st	1.75	1.88	1.77	1.91
	2nd	1.76	1.89	1.79	1.91
Drafter/Draftsperson	1st	1.84	1.77	1.86	1.78
	2nd	1.82	1.86	1.86	1.81
School Principal	1st	1.70	1.85	1.70	1.85
	2nd	1.76	1.87	1.73	1.90
Dental Assistant	1st	1.57	1.80	1.61	1.86
	2nd	1.68*	1.84	1.65	1.85
Florist	1st	1.57	1.76	1.59	1.79
	2nd	1.67*	1.80	1.57	1.78
Librarian	1st	1.54	1.66	1.65	1.74
	2nd	1.59	1.69	1.56	1.79
Truck Driver	1st	1.52	1.67	1.54	1.74
	2nd	1.61	1.73	1.58	1.80
Flight Attendant	1st	1.54	1.65	1.57	1.67
	2nd	1.56	1.70	1.51	1.76
Electrician	1st	1.57	1.59	1.58	1.67
	2nd	1.64	1.72**	1.50*	1.78**
Farmer	1st	1.51	1.62	1.58	1.65
	2nd	1.54	1.70	1.55	1.65
Air Conditioning Mechanic	1st	1.52	1.54	1.58	1.60
	2nd	1.63*	1.63*	1.53	1.67
Plumber	1st	1.59	1.60	1.49	1.64
	2nd	1.56	1.59	1.49	1.68

Table 2 (continued)

Students' Perception That Occupations Should Be Held by
Both Males and Females: Comparison of Change in Students' Responses Between
First and Second Surveys for Experimental and Control Groups

Occupation	Time of Survey	Comparison of Mean Values on First and Second Surveys: Experimental Group-Means Males (N = 133)	Experimental Group-Means Females (N = 110)	Control Group-Means Males (N = 104)	Control Group-Means Females (N = 108)
Cosmetologist	1st	1.53	1.64	1.39	1.70
	2nd	1.52	1.70	1.50*	1.70
Nurse	1st	1.44	1.58	1.48	1.68
	2nd	1.56**	1.70**	1.56	1.75*
Child Care Aide	1st	1.47	1.58	1.50	1.59
	2nd	1.55	1.64	1.62**	1.66
Licensed Practical Nurse	1st	1.43	1.62	1.44	1.65
	2nd	1.53**	1.70	1.49	1.73
Secretary	1st	1.42	1.51	1.49	1.61
	2nd	1.58***	1.59	1.50	1.73*
Automobile Mechanic	1st	1.40	1.55	1.43	1.64
	2nd	1.43	1.62	1.46	1.66
Machine & Metal Worker	1st	1.39	1.48	1.44	1.52
	2nd	1.49*	1.60*	1.45	1.59*
Welder	1st	1.42	1.43	1.36	1.56
	2nd	1.52*	1.61*	1.43	1.62*
Construction Worker	1st	1.32	1.45	1.29	1.55
	2nd	1.41*	1.61*	1.37	1.65*

T-test of paired samples significant at
*$p < .05$
**$p < .01$
***$p < .001$

Code for computing means:
2 Job for both males and females
1 Job for males only or females only

control group, females showed positive change on five of the thirty occupations. All of the occupations on which change occurred were those where less than 70 percent of the females initially said that the job should be held by both sexes. Therefore, since the majority of females showed less stereotyping in their attitudes toward specific occupations at the time of the pre-test, there were fewer possibilities for change to occur. However, change toward less stereotypic attitudes did occur among females in the experimental group on six of the thirteen occupations in which few females thought that the job should be held by both sexes on the pre-test.

On both pre- and post-tests, males in the experimental and control groups were similar in their perceptions about whether jobs should be held by both males and females. They differed on only one of thirty occupations on the pre-test and on only two of the thirty on the post-test. However, when pre- and post-tests were conpared for each group, males in the experimental group changed on ten of the thirty occupations; nine of the changes toward less stereotypic attitudes. Change was most likely to occur among males on occupations which had evidenced the most stereotyping at the time of the pre-test. In the control group, males changed significantly on only three of the occupations with only two of the changes in the direction of less stereotypic attitudes.

Conclusions

The finding from this project to determine the effectiveness of methods to reduce sex-role stereotyping in occupationa education suggest several approaches which might be used with students to address this problem. The results provide evidence that classroom activities which provide students with information about career decision-making and non-traditional career choices and the chance to discuss the choice process can affect students' attitudes and opinions about occupational choice. This change in perceptions is in the direction of developing more positive attitudes towards non-traditional careers.

In particular, the activities and discussions conducted with the experimental group had the greatest impact upon the male students. These students showed significant changes in their opinions that occupations are appropriate for both sexes. Greater change also occurred in attitudes towards occupations for which specific information was presented. Female students also showed positive change in their attitudes. However, since the female students started with less stereotypic attitudes, the amount of change was not as great as for the males.

Although significant changes were noted in the attitudes and opinions of members of the experimental group in moving towards less sex-stereotyping, even the control group evidenced some positive changes. In fact, the process of completing the test instruments seemed to contribute to this change. Control group members commented that they enjoyed the task of completing the instrument, remarking "it made me think about careers" or "I hadn't thought much about those things before." These observations lend support to an argument in favor of devoting special time in classrooms to a consideration of careers and possible options.

These findings from the present study suggest several recommendations for implementation by educators. The findings also provide further reinforcement for some of the recomendations from the earlier phases of the study. These recommendations include:

1. Provide opportunities for students to discuss career decision-making and issues relating to sex-stereotyping of occupations. Students seemed to benefit from the interaction with other students in discussing non-traditional careers and information about career decisions. Further benefits seem to be obtained by the process of specifically focusing on these topics with students. Since many students did not regard some of their contacts with counselors as sessions involving career decision-making, counselors might make more extensive use of group activities to reach students with career information.

2. Build upon the influence of parents and peers as a support system for students who are making career decisions.

3. Increase the involvement of parents in the decision process, especially with regard to non-traditional career options.

This might include providing opportunities for parents to interact with their sons and daughters as well as providing information about careers to parents for use in discussions in the home.

4. Develop special programs to address the particular needs of male and female students for consideration of problems related to occupational stereotyping and career decision-making. Since male and female students appeared to start with somewhat different attitudes and information about non-traditional careers, special efforts might be made to address these differences. For example, males may require more information to bring them to the level of awareness displayed by the female students in the study. Such awareness may also help to diminish the perception that male peers are least supportive of non-traditional career choices.

A general observation from the study is that change can be observed in the attitudes of students toward non-traditional careers even when the treatment time is limited. Since schools have a variety of demands on available classroom time, it is unlikely that large blocks of time can be made available for lengthy programs in most schools. It is encouraging that changes in students' attitudes were noted after a contact period of only two class sessions. Educators might be encouraged to provide time, even if limited, for consideration of these important issues. Such interventions, especially when initiated early in students' school careers, can serve as a first step in expanding occupational choices for students.

REFERENCES

Greene, A.L., Beyard-Tyler, K., & Sullivan, H.J. Changing adolescents' attitudes toward sex-typed careers. Paper presented at the annual meeting of the American Educational Research Association, Los Angeles, California, April, 1981.

Hollender, J.W. Development of vocational decisions during adolescence. Journal of Counseling Psychology, 1971, 18, 244-248.

Kirchner, E.P. & Vondracek, S.I. What do you want to be when you grow up? Vocational choice in children aged three to six. Paper presented at the meeting of the Society for Research on Child Development, Philadelphia, Pennsylvania, March 1973.

Looft, W.R. Sex differences in the expression of vocational aspirations by elementary school children. Developmental Psychology, 1971, 5, 361.

Ott, M.D., Carmichael, M.M.,Gallup,J.M., Lewis,G.L., Russ, A.J. & Veres, H.C. The identification of factors associated with sex-role stereotyping in occupational education. Ithaca, NY: Institute for Occupational Education, Department of Education, Cornell University, 1980.

Rosen, B.C. & Aneshensel, C.S. Sex differences in the educational-occupational expectation process. Social Forces, 1978, 57, 164-186.

Venter, K.E. Sexual stereotyping and career choice: A study of sixth grade students. Social Work Research and Abstracts, 1980, 7,38-45.